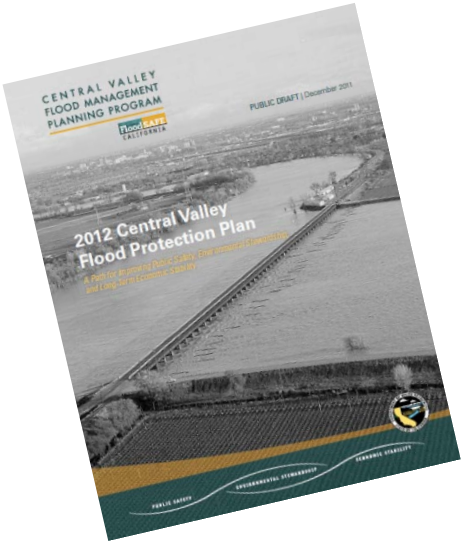
FloodSAFE CALIFORNIA

Public Draft
2012 Central Valley Flood Protection Plan



Delta Stewardship Council Briefing

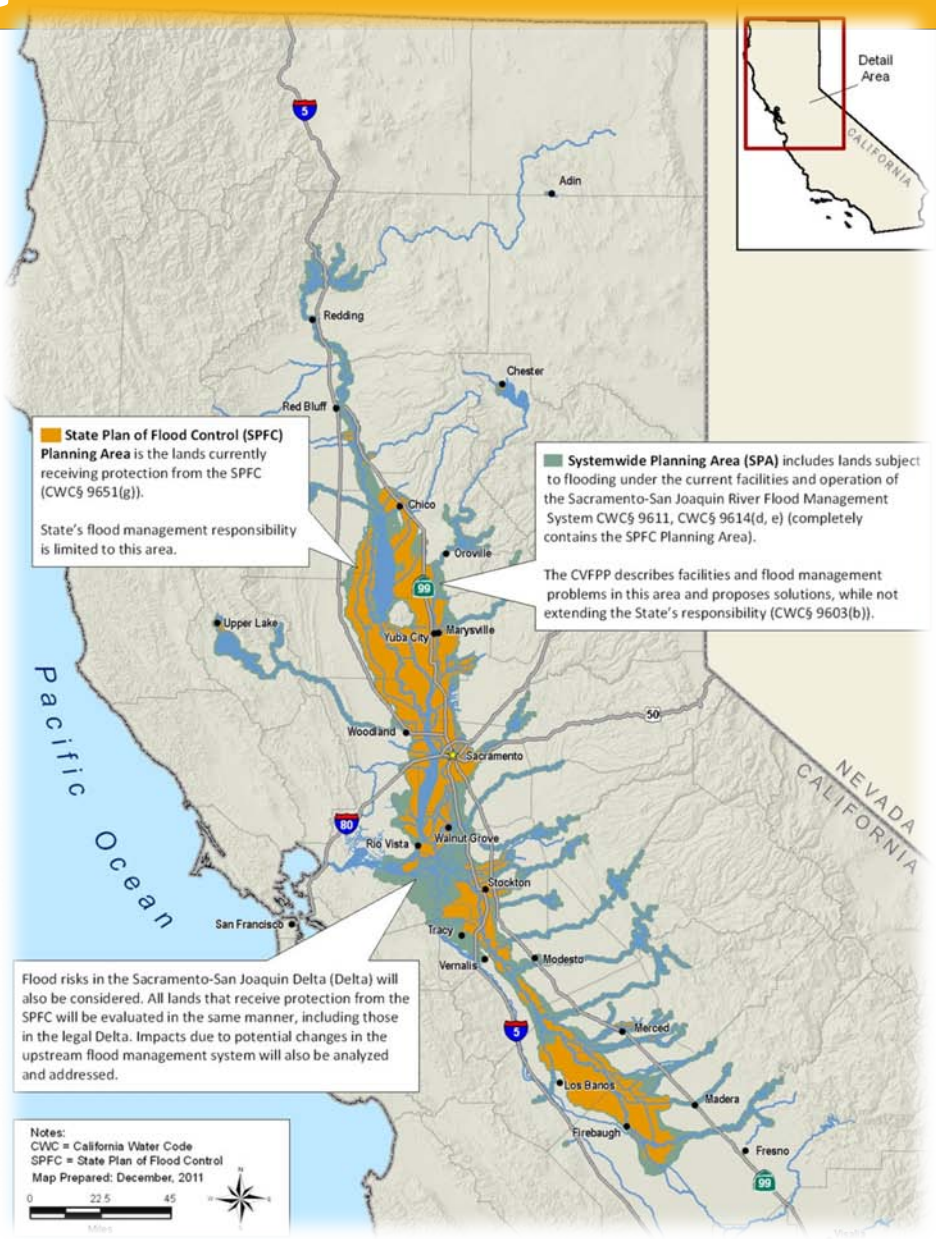
February 9, 2012

California Department of Water Resources

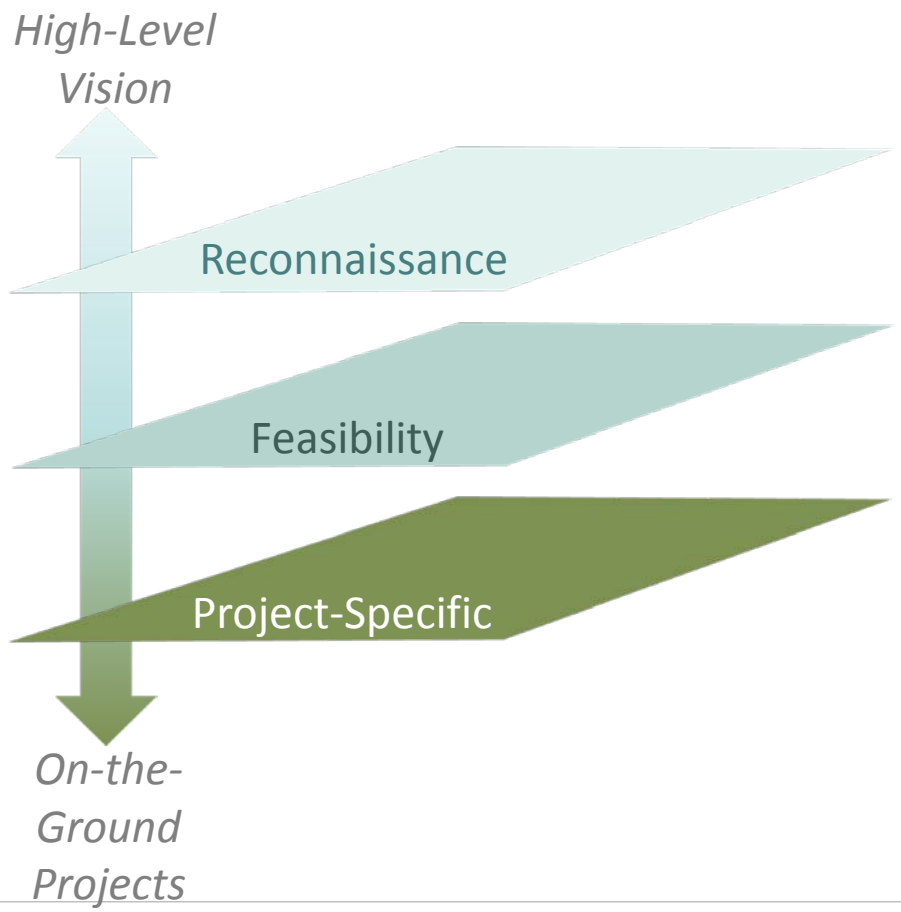
PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

Geographic Scope

- Focuses on lands protected by facilities of the State Plan of Flood Control
- Addresses major flood management reservoirs and local facilities that effect the operation of the SPFC
- Coordinates with other major flood management efforts and related resources



Level of Detail



- The 2012 CVFPP is a descriptive document
- It is supported by data and analyses conducted at a reconnaissance level
- Follow-on feasibility studies, environmental reviews, and designs will be needed to implement on-the-ground projects consistent with the 2012 CVFPP

Systemwide Perspective

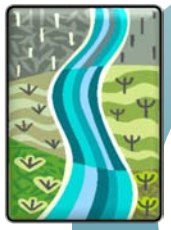
- Considers the Central Valley flood system as a whole
- Focuses on State Plan of Flood Control
- Recognizes State's fundamental interests
  - Public safety
  - Environmental stewardship
  - Economic stability

Reservoir Storage Operations

Protection for Rural-Agricultural Areas and Small Communities

Ecosystem Functions within Flood System

Conveyance of Flood Flows



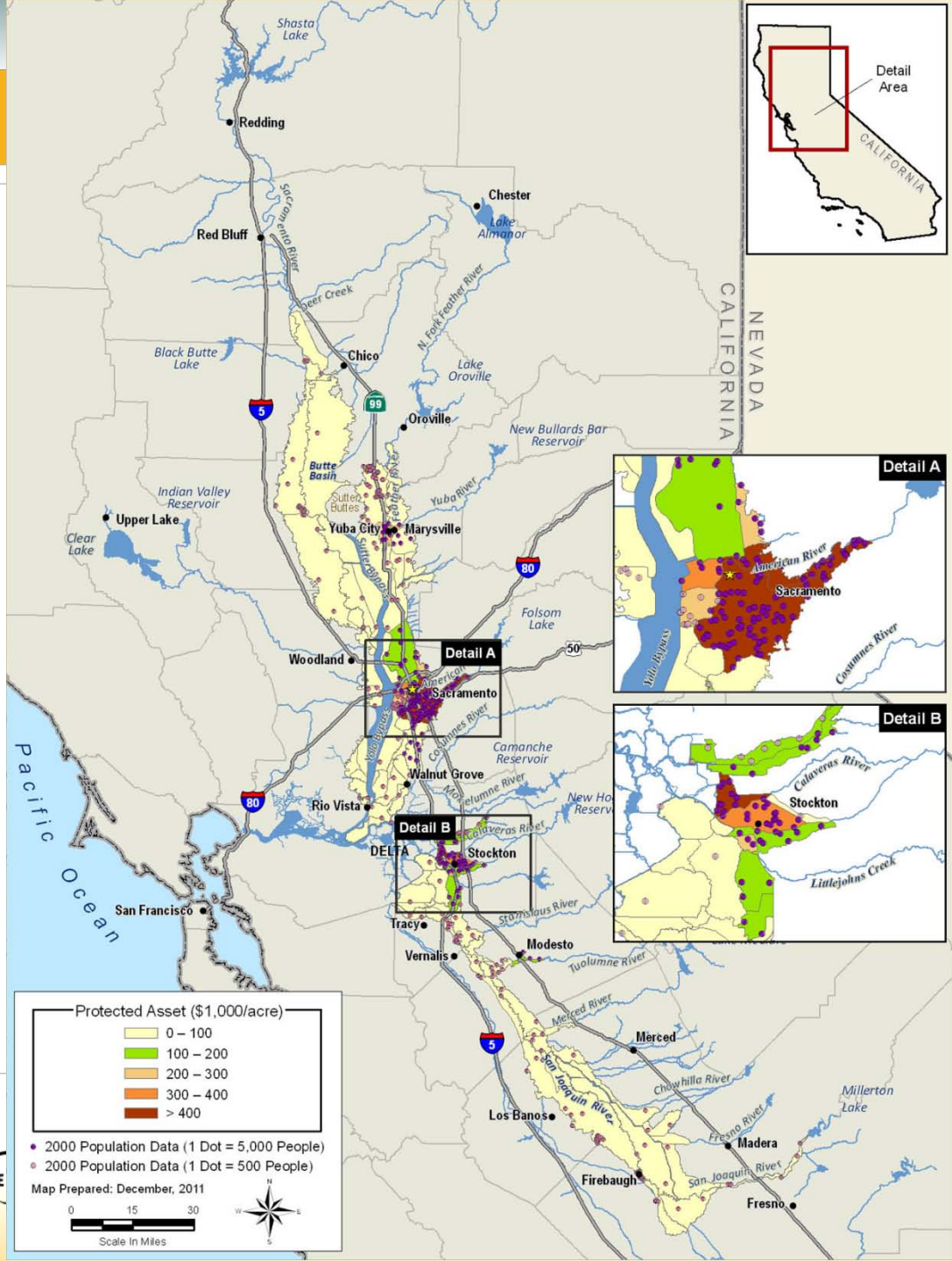
Management of Floodplains

Protection for Urban Areas

Risk = Hazard + Exposure + Performance + Consequences

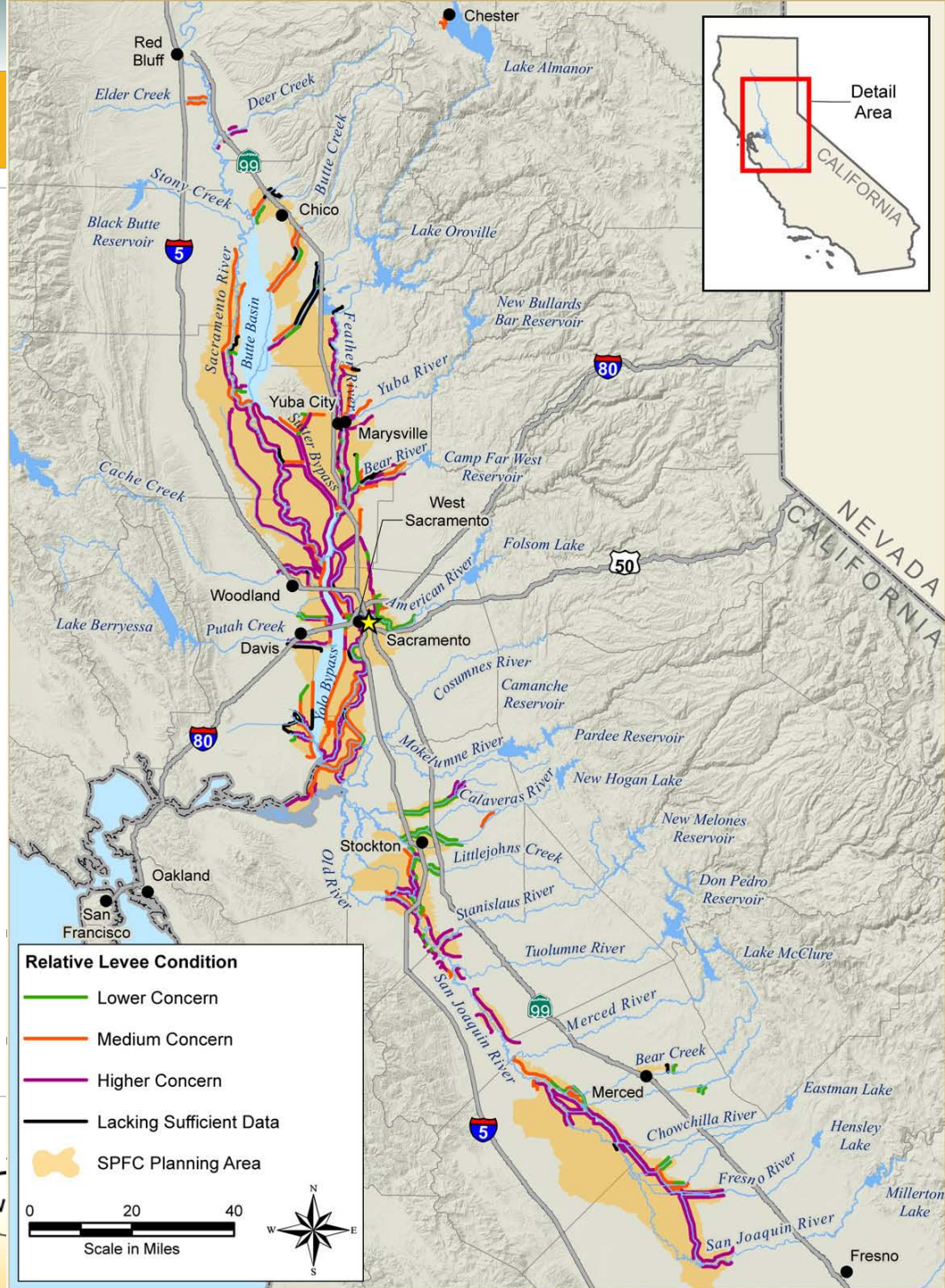
Exposure

- 1 million people
- $69B assets
  - Structures
  - Crops
- Urban, Small, & Rural-Ag Communities
- Critical Habitat (Terrestrial, Riparian, Tidal, Aquatic, etc.)

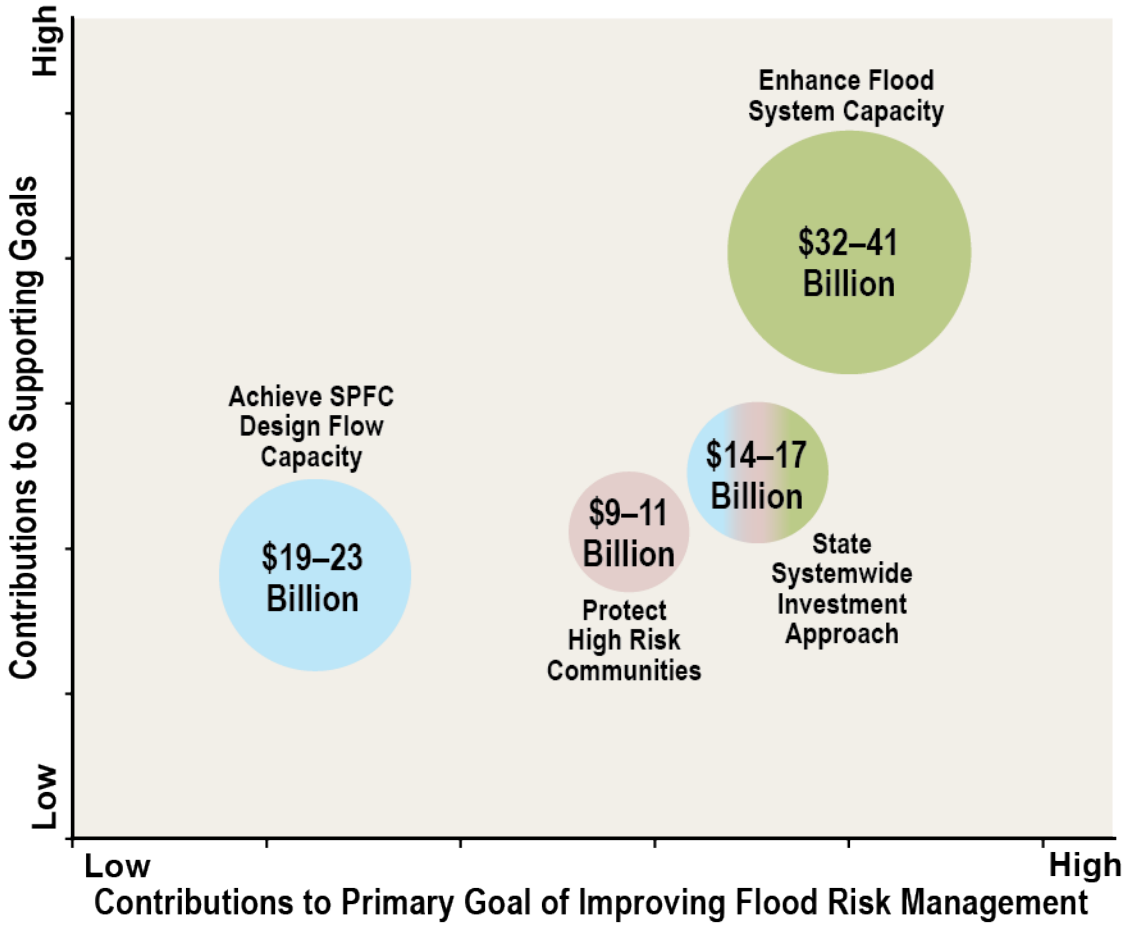


Performance

- ~50% of 300 miles of SPFC urban levees do not meet design criteria
- ~60% of 1,200 miles of SPFC non-urban levees have high potential for failure

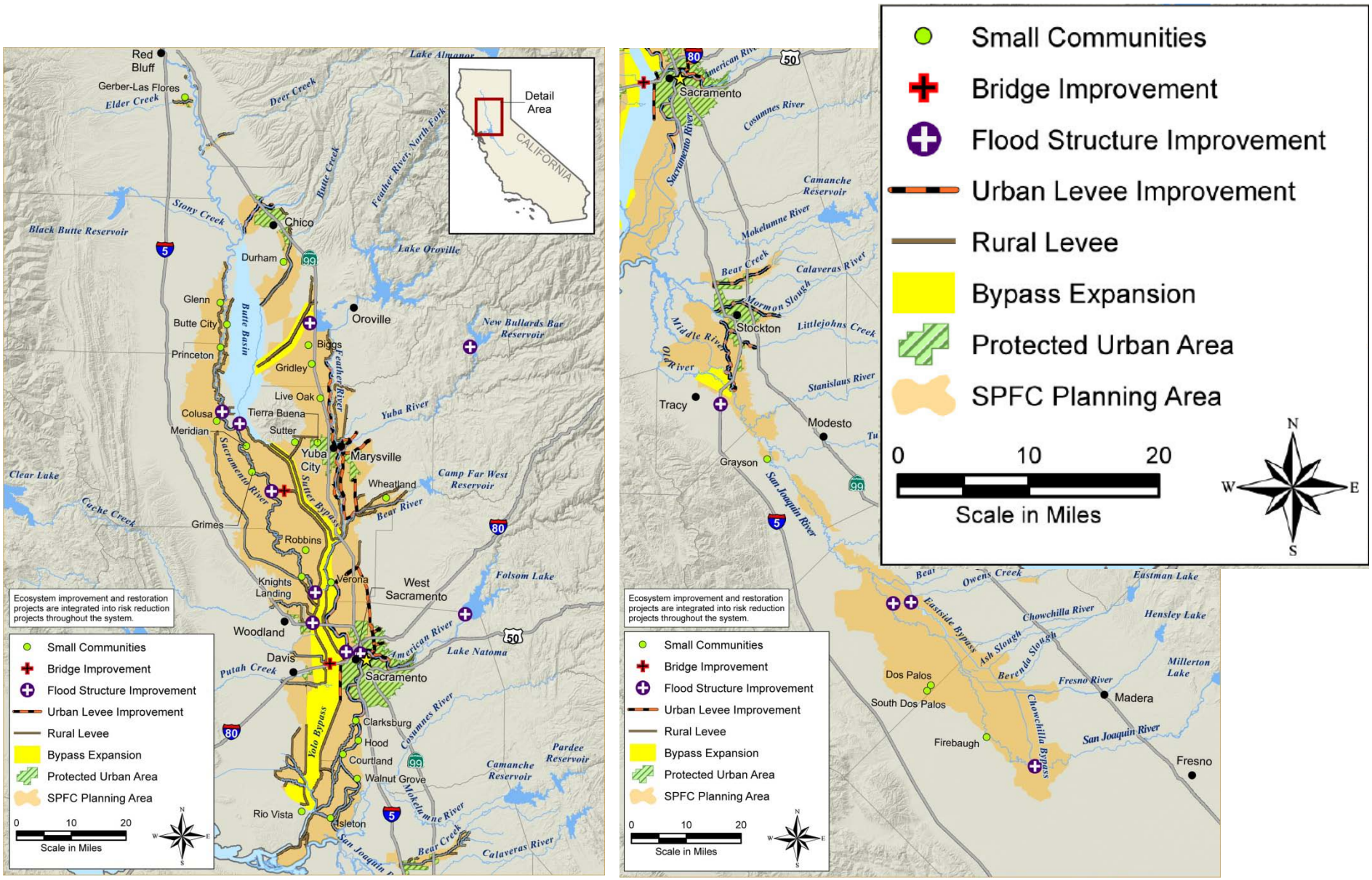


CVFPP Approach Comparisons



KEY: SPFC = State Plan of Flood Control

Physical Features of the SSIA



SSIA Benefits Highlights

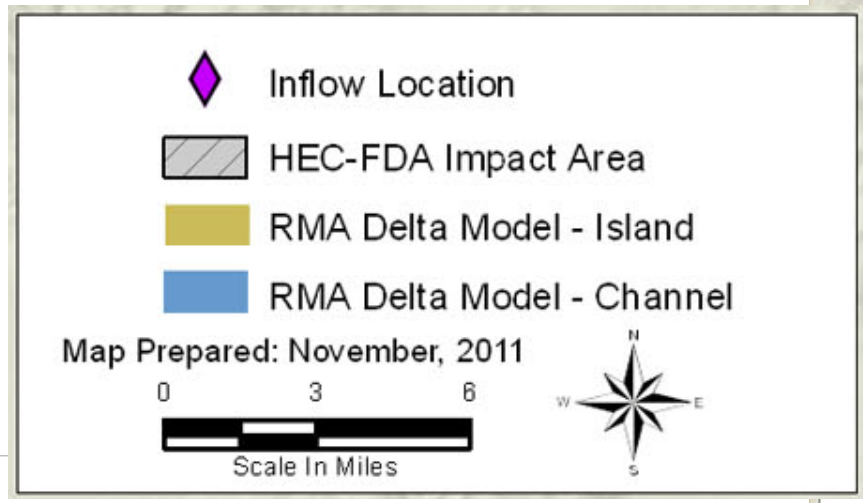
- 67% overall reduction in expected annual flood damages
- Construction to increase economic output by $900 million and generate over 6,500 jobs annually
- Avoided business losses to increase long-term economic output by over $100 million
- 49% reduction in life risk
- 10,000 acres of new habitat and 25,000 acres of habitat-compatible crops
- Sustainable rural-agricultural lifestyle
- Resiliency and adaptability to future changes

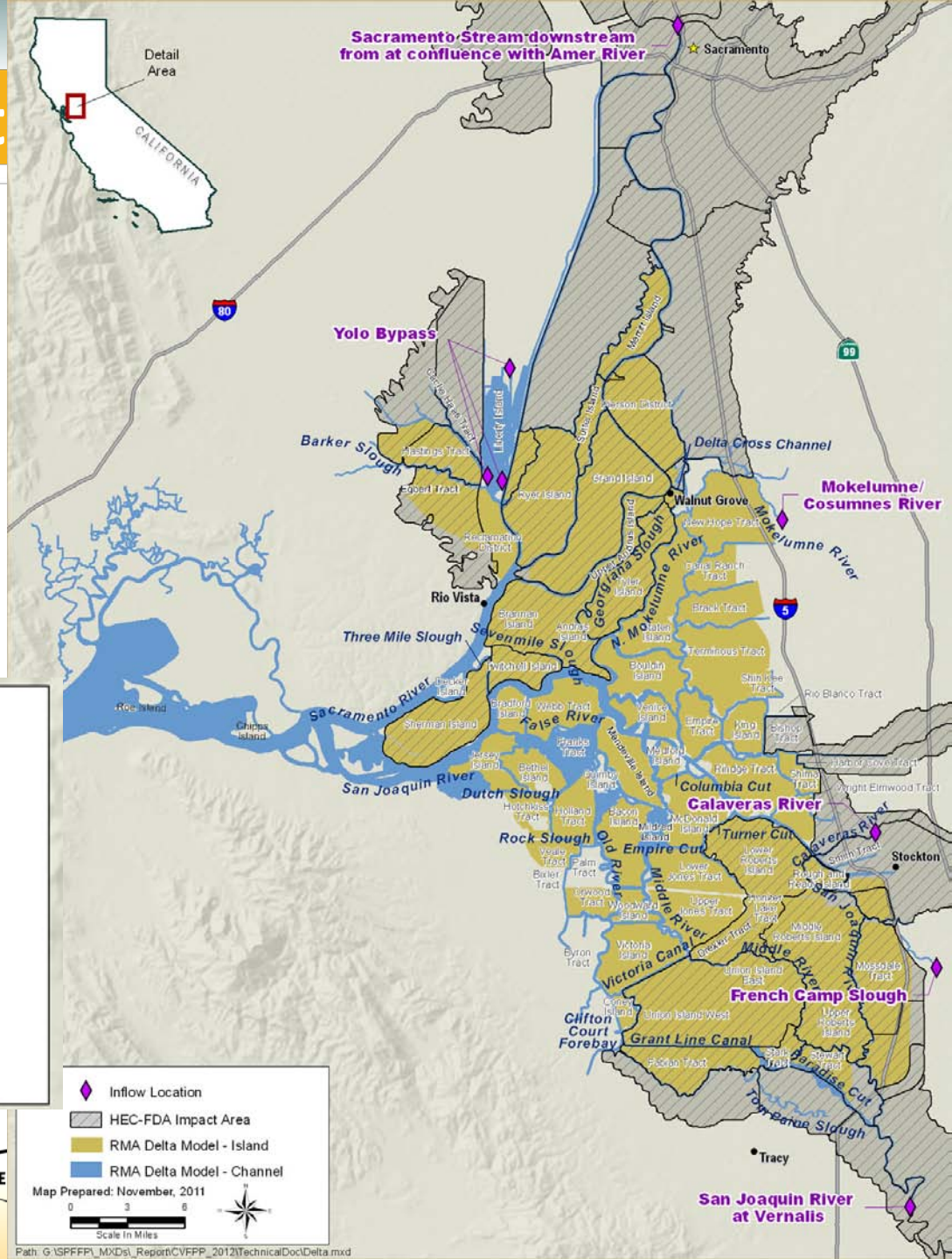
CVFPP and the Delta

Risk Assessment

3 Key Models

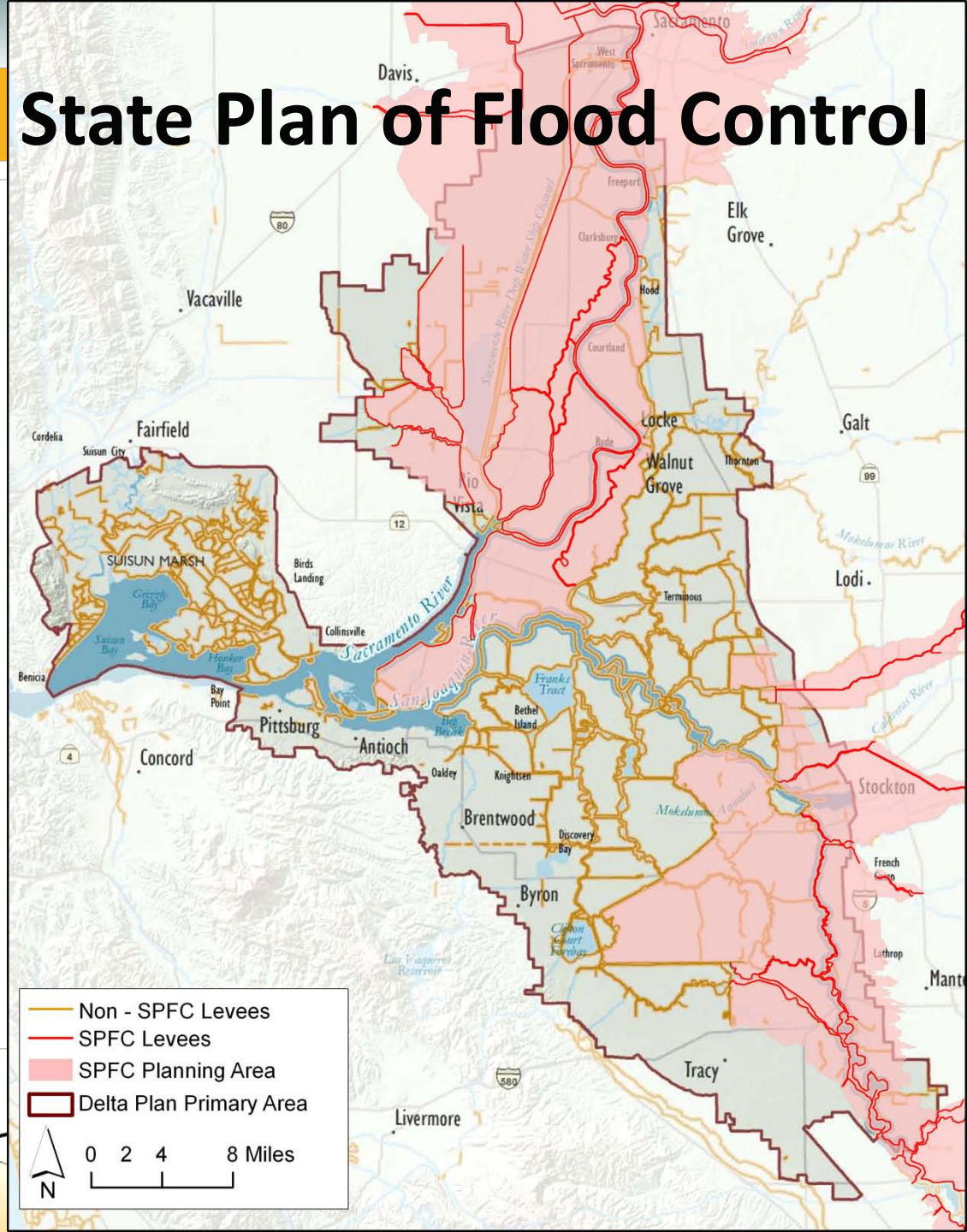
- Riverine Model
- Estuary Model
- Flood Damage Assessment Model





Delta Levees: State Plan of Flood Control

- 315 miles SPFC levees
- 715 miles non-SPFC levees



Process for Adding Facilities to SPFC

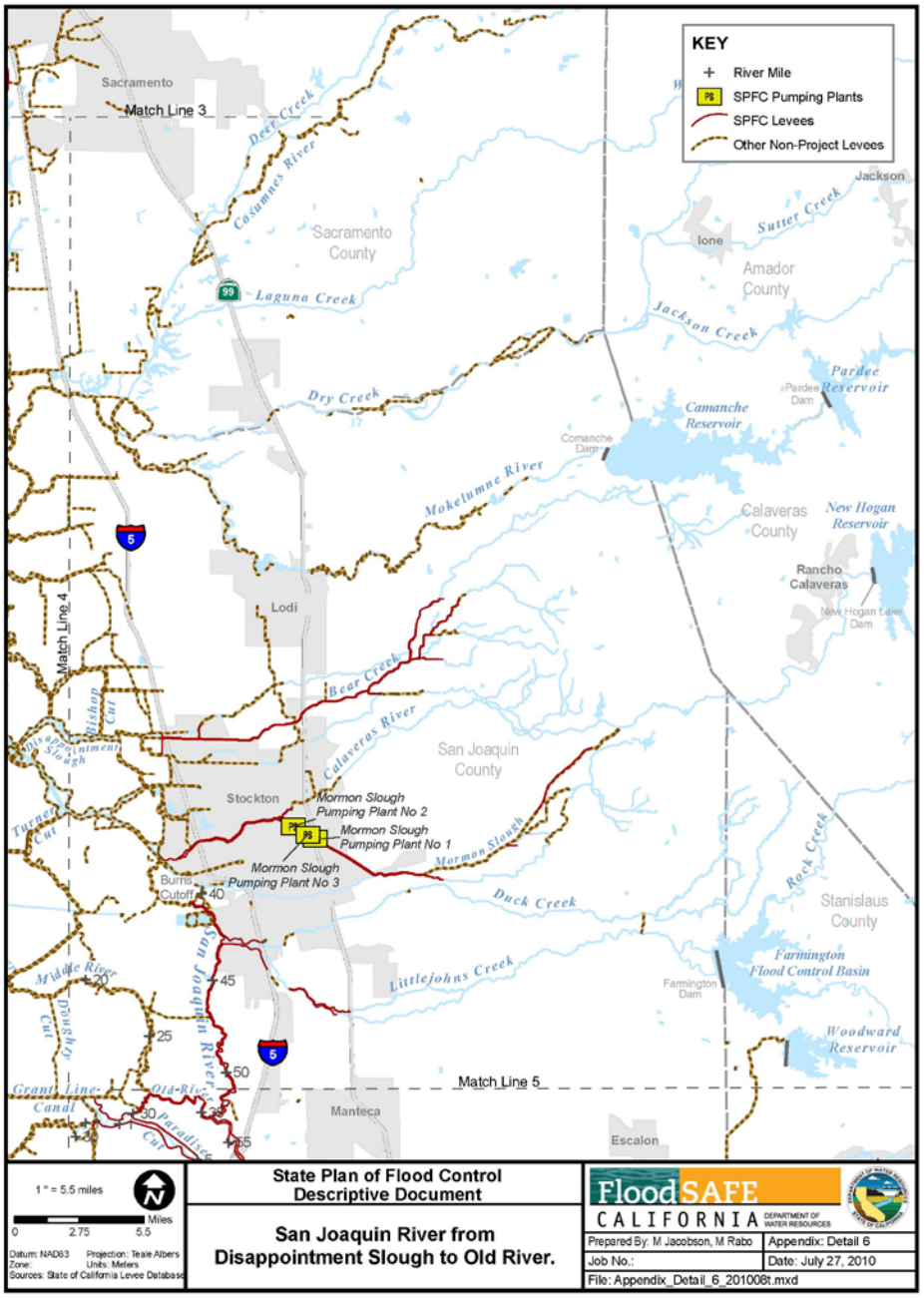
- Ongoing State-Federal projects
  - Federal projects w/ authorization & completed construction can be turned over to state
- DWR Early Implementation Program (EIP) projects
  - State projects w/ completed construction get Federal authorization & State enters project participation agreement with Federal government
- Section 221 of the Flood Control Act of 1970
  - Local projects w/ completed construction seek both State and Federal authorization & project participation agreements

Examples of SPFC Pros & Cons

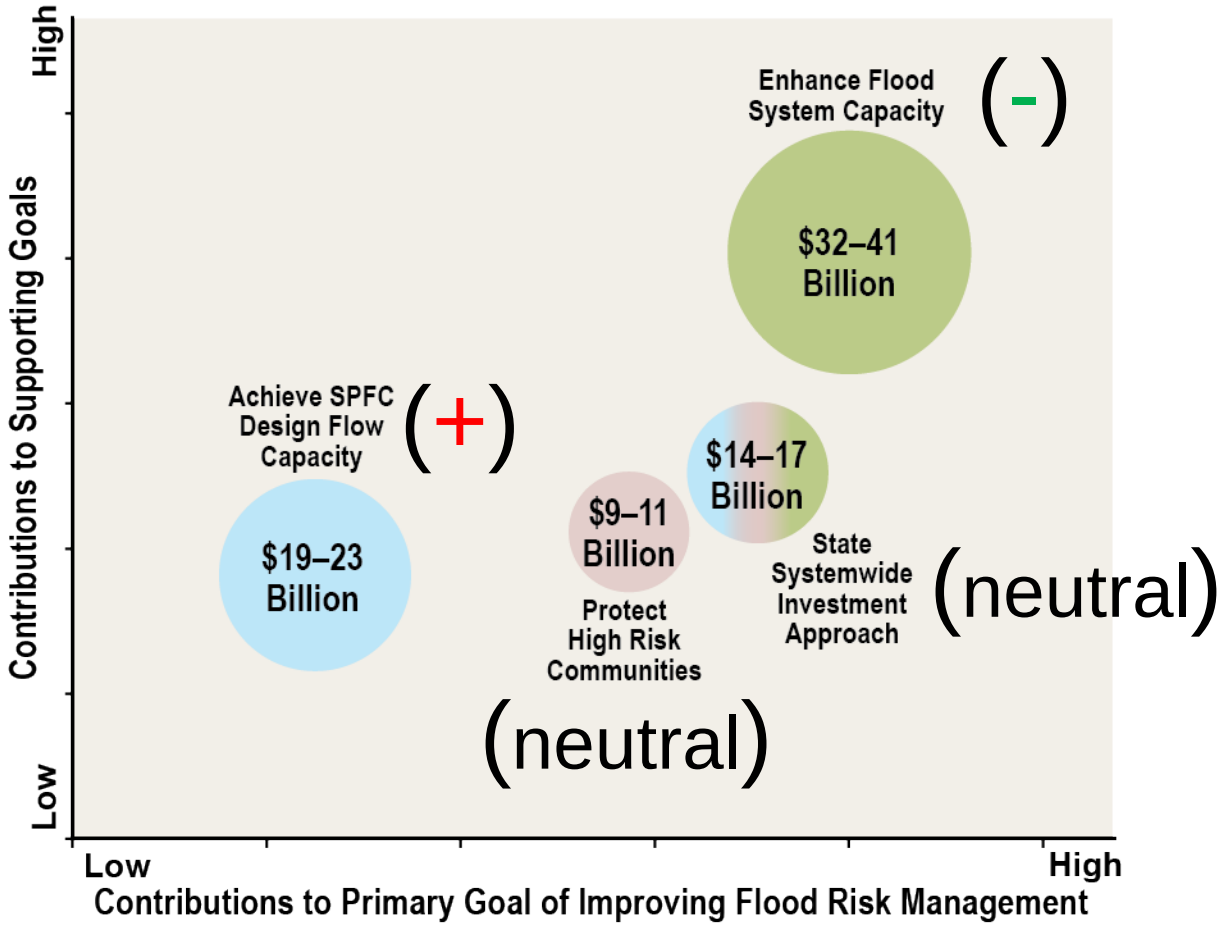
	Pros	Cons
Federal Feasibility (Justification) Process	Standardized assumptions used in economic benefit-cost assessment	Greater local cost share for project improvements
		Longer time frame to move from concept to construction
Federal Levee Design Standards	More engineers familiar with basic design (including USACE design services)	Basic designs do not directly take into account unique hazards & needs of estuaries such as the Delta
	High performance standards and factors of safety	Greater costs associated with higher performance standards and factors of safety
	Periodic USACE inspection program	Changing Federal standards & compliance costs
Federal Permitting Process	Additional opportunity to assessment risk transfer & public comment	Time & cost for additional permitting results in increased overall project design costs
		Federal reauthorization required for any improvements

Stockton Area

- Urban area where SPFC and non-SPFC levees protect same areas (levee flood protection zones)
- Local and system improvements (such as Lower San Joaquin Bypass) can reduce flood risk



Modeled Changes in Delta Water Levels



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Questions

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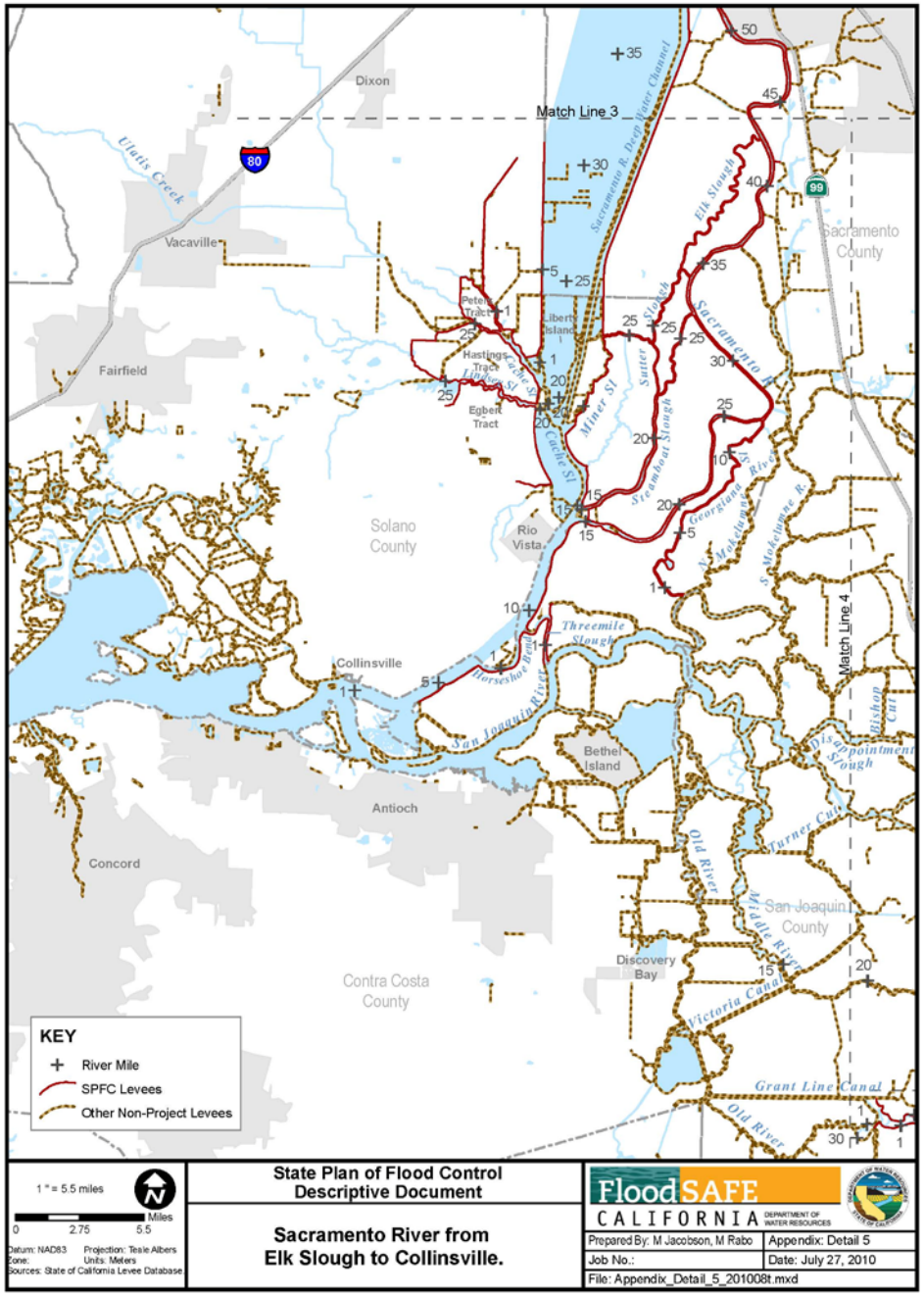
Sacramento


Match Line 3
Match Line 4
Dixon
Vacaville
Fairfield
Solano County
Rio Vista
Collinsville
Bethel Island
Antioch
Concord
Contra Costa County
San Joaquin County
Discovery Bay
Sacramento County
Ulatis Creek
Elk Slough
Sutter Slough
Steamboat Slough
Miner Sl
Cache Sl
Threemile Slough
Horseshoe Bend
San Joaquin River
Old River
Middle River
Victoria Canal
Grant Line Canal
Turner Cut
Disappointment Slough
Bishop Cut
Peters Tract
Hastings Tract
Egbert Tract
Liberty Island
KEY
River Mile
SPFC Levees
Other Non-Project Levees
1 " = 5.5 miles
Miles
0 2.75 5.5
Datum: NAD83 Projection: Teale Albers
Zone: Units: Meters
Sources: State of California Levee Database
State Plan of Flood Control
Descriptive Document
Sacramento River from
Elk Slough to Collinsville.
FloodSAFE CALIFORNIA
DEPARTMENT OF WATER RESOURCES
Prepared By: M Jacobson, M Rabo
Appendix: Detail 5
Job No.:
Date: July 27, 2010
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